

THE SAFE ENERGY

June 1998

Bulletin

Political fallout from disarray at Dounreay

The catalogue of recent events at Dounreay has been growing into a major political embarrassment for the Government north of the Border. Time and time again the Scottish National Party (SNP) have been able to embarrass Labour, as parties begin to position themselves in the run up to next year's Scottish Parliamentary elections. Each time, it is implied that Labour does not have the interests of Scotland at its heart.

The announcement by the Government in June that reprocessing at Dounreay is to be brought to an end by 2006 and that no new reprocessing contracts can be signed will prevent the Australian Government from sending 1,300 spent nuclear fuel rods from its Lucas Heights reactor. However, it appears that by sticking to its line that reprocessing is required to continue until 2006, the Government is leaving itself open to a recurring barrage of criticism each and every time there is a discovery of a problem at the plant - which is virtually a monthly occurrence at present.

The Government now needs to consider whether spending over £100 million to restart operations at the Fuel Cycle Area (which processes and reprocesses radioactive material) is value for money given other pressing calls on the public purse. However, having spent this money, a future Government may still be tempted to permit reprocessing beyond 2006 and delay the decommissioning of the Dounreay site, which is expected to take at least 100 years and cost an estimated £2.5 billion.

Even though Dounreay does not presently have permission to operate its reprocessing or processing facilities, 73kg of weapons-grade Plutonium was to be sent to Dounreay from Germany at the beginning of July. This, however, has now been delayed due to political concerns in Germany.

This and other reprocessing contracts were signed before a recent damning report from the Nuclear Installations Inspectorate (NII) was made public and there are now grave concerns about the material coming to the site. At Dounreay the NII found radioactive leaks, waste "transferred to 'paint cans'", "significant deficiencies", "unacceptable" practices, "complacent" attitudes, "unpredictable"

conditions in the plant, and that "the hazard of criticality [a nuclear explosion] is not being afforded the respect it deserves".

Revelations that 170kg of weapons-grade material went missing from Dounreay during the 1960s has been a further embarrassment given the Prime Minister's recent denouncement of those who have criticised safety at the site. It is clear that if this material never existed then Dounreay have been incompetent, if it has been lost around the site then they have been dangerously negligent and if it has been used in nuclear weapons then they have been lying.

Fortunately no reprocessing was being undertaken when in May contractors working on the site cut the electricity cable to the Fuel Cycle Area and back-up generators failed to start up, leaving the area without power. All 3,000 non-essential staff were evacuated.

Recent revelations question how much the Government is being told about the activities at Dounreay. For example, Donald Dewar and John Battle were only informed in June about an additional 9kg of Low Enriched Uranium (LEU) sent to Dounreay in the consignment from Georgia, which arrived in April. It appears that nobody had asked about LEU and so the UKAEA did not inform the Government of its inclusion in the consignment. Further questions are now being asked about a second US plane which arrived 36 hours after the first.

Questions are also being asked about the advice being given to the Government following Ministers' statements which have stated that reprocessing is the only technical solution for the material remaining at the plant. This contrasts with the findings in a UKAEA report, "PFR Fuel Management Options - Issue 1" (September 1995), which states that, "A dry storage option is considered technically feasible ..".

Also, Lord Sewel, the Minister responsible for the Environment in Scotland stated in June that reprocessing has the additional advantage that it ".. reduces the amount of waste .." to deal with. In fact, reprocessing actually leads to an 85-fold increase in the volume of waste which will ultimately require disposal, as well as the resultant liquid and gaseous emissions from the process.

Catalogue of key known events in '98

January: UKAEA was fined £2,000 over an incident in 1995 when five contractors inhaled radioactive dust.

February: Three more potentially deadly radioactive particles were found on the Dounreay foreshore.

March: Announcement that the contents of the waste shaft will be retrieved at an estimated cost of £215-£355 million.

April: Georgian waste arrives; controversy over the resignation of the chief constable of the UKAEA constabulary.

May: Diggers cut through the Fuel Cycle Area power cable; major safety audit announced involving NII.

June: Revelation that 170kg of weapons-grade uranium had possibly been mislaid in the 1960s - enough to make a dozen or so atomic bombs; Ministers informed that LEU had also arrived from Georgia in April; Government announces the end of commercial reprocessing at Dounreay by 2006; revelation that British Airways transports radioactive material from Dounreay on its scheduled flights; arrival of plutonium from Germany postponed.

Leukaemia risk

New research suggests that the level of radiation which can cause cancer is in the region of 1/100 of officially used estimates. Dr. Chris Busby believes that his research "... shows the official estimates of radiation risks are way out, and it supports the theory that the excess of childhood leukaemias around reprocessing plants, like Dounreay, is caused by radiation, rather than some other cause."

Campaign call

At the OSPAR meeting in July, the Government is likely to come under severe pressure from Norway and other countries to further reduce radioactive discharges into the North-East Atlantic. Please write to John Prescott asking him to agree to "continuous reductions in discharges ... of radioactive substances, with the ultimate aim of achieving concentrations in the marine environment near background values." Also, please also ask your MP to sign Early Day Motion 1415 on radioactive discharges into the marine environment.

Recent publications

• "Radioactive Waste Disposal: The Key to a Nuclear Future?", produced by the Consortium of Opposing Local Authorities (COLA) June 1998. (tel: 01935 462576).

Renewable shift in EU energy policy

Following the European Commission's White Paper on Renewable Energy, published at the end of last year, EU Energy Ministers have unanimously adopted a Resolution which gives a further clear political commitment to renewable energy. And, in a move to highlight the importance which environmental concerns are having on EU politics, Michael Meacher MP, the UK Minister for the Environment took the place of the Energy Minister at the UK Presidency's EU Energy Council meeting in May.

The Commission's White Paper sets out a strategy and action plan which aims to double the share of renewables in the EU total energy use, from 6% at present to 12% by 2010. Central to this is a 'Campaign for Take-Off' which aims to promote:

- the installation of 1 million PV systems (half inside the European Union and half outside);
- 10,000 MW of electricity capacity to come from wind (out of 40,000MW expected to be developed in the EU by that time);
- 10,000 MW of biomass capacity; and
- the integration of renewable energy systems into 100 communities.

The Commission is also working on developing legislation which will promote renewable energy and provide it with fair access to the grid; renewable energy and energy efficiency have been identified as priorities for Structural Fund spending between 2000-2006; and the Commission is also hoping that revision of the Common Agricultural Policy will provide for the promotion of energy crops and the use of agricultural and forestry residues.

4% UK target for renewables

The UK Government is considering whether 10% of the country's electricity should come from renewables by 2010. This translates into 4% of energy to come from renewables, considerably lower than the 12% target for the EU as a whole. Presently, approximately 2% of electricity in the UK comes from renewables and the Government believes that a further 3% will stem from NFFO/SRO contracts whilst a review presently being undertaken will point to how the remaining 5% could be produced.

In a submission to this review the Government's leading adviser on wave power, Tom Thorp, has revealed that Salter's Duck could produce electricity for as little as 2.6p/kWh. This is just one of three devices which he believes can generate electricity for less than 6p/kWh,

making them competitive with other forms of energy in certain markets.

The price of electricity in the UK

Gas	2.5p/kWh
Wave	2.6p/kWh (projected)
Wind	3.0p/kWh
Coal	4.0p/kWh
Nuclear	4.5p/kWh

Source: New Scientist, 16/5/98

A recent question in the House of Commons, however, has revealed that support for renewable energy still only accounts for 5% of the Government's energy programme expenditure (1997/98 financial year figures).

UK energy programme expenditure '97/8

Nuclear fusion	£17.1 million (7.7%)
Renewables	£11.1 million (5.0%)
Total expenditure	£222.2 million

Climate change

In June, the UK agreed to a 12.5% cut in emissions of greenhouse gases between 2008 and 2012 as part of the commitment made by the EU in Kyoto in December. Consultation on meeting this commitment and achieving the Government's aim of reducing CO₂ by 20% by 2010 is due to be announced soon.

In a new communication by the Commission, 'Climate change: Towards an EU Post-Kyoto Strategy', released on 3rd June, Member States are requested to provide detailed information regarding their national strategies by the end of the year.

The Commission believe that a modified energy tax system will be required to be implemented in the EU.

Energy efficiency

The Commission's Communication 'Energy efficiency in the EC: Towards a strategy for the rational use of energy' published in April promotes a new strategy for energy efficiency in the EU. It estimates that economically viable savings of up to 18% of present energy consumption can be achieved by 2010. The Commission is now going to publish a detailed Action Plan on promoting energy efficiency.

Combined heat and power

At the end of last year the Commission produced a strategy for combined heat and power, which proposes actions aimed at doubling the share of CHP used for power generation in the EU from 9% at present to 18% by 2010.

It appears that the political climate in Europe is in favour of renewable and other sustainable forms of energy.

However, we will need to wait to see how well the strategies and policies work in the face of hostile vested interests of the major existing energy industries.

Wind potential

Wind power could supply one-tenth of EU electricity by 2020 the European Wind Energy Association (EWEA) announced in June as it launched a new assessment of the industry's prospects. In 1991 the Association set a target of 4,000MW of wind capacity to be constructed by 2000. By 1997 a figure of 4,500MW had already been reached with capacity growing at a rate of 40% per year. The EWEA has therefore set new targets (see below) including 100,000 MW to be constructed by 2020 (equivalent to 10% of the EU's electricity requirement). The EWEA believe that wind energy could reduce EU carbon dioxide emissions from electricity generation by over 11% by 2040.

European Wind Energy Ass. targets

2000	8,000MW
2010	40,000MW
2020	100,000MW

Danish National Policy is for 50% of electricity to come from wind power by 2030, four-fifths of which from off-shore turbines. Moreover, the Danish Government's energy plan has an objective for 35% of all the country's energy to come from renewables by that date. At present the Danish wind power industry employs 12,000 people, has sales of £500 million in 1997 and exports to 47 countries. In Europe 30,000-35,000 are now employed in the wind industry.

At a conference on energy and the environment which was held in Glasgow in June as part of the UK's Presidency of the EU, John Battle MP stated that the market for renewable energy in the EU, which would be needed to meet the 12% renewables target, would be in the region of £100 billion. Also, the EC expect that the annual export business for renewable energy will be approximately £12 billion by 2010, creating as many as 350,000 additional jobs.

ALTENER II programme

The deadline for applications to the European Commission's ALTENER II programme, which aims to encourage investments in the production and use of renewable energy sources, has been set for 31st July.

An information pack specifying the details for submissions is available via the internet: <http://europa.eu.int/en/comm/dg17/altener.htm> or by contacting Mr. Harbison at DGXVII on fax: +32 2 296 62 83 or by email: Ronan.Harbisonaltener@bxl.dg17.cec.be

News snippets

Chernobyl resulted in a four-fold increase in the number of childhood cancers in Scotland, a study has revealed. Research undertaken by Dr. Chris Busby shows that in the two years following the accident there was a dramatic rise in the number of children contracting leukaemia before they were one year old. This is the first time that firm evidence has been found between childhood leukaemia in Scotland and the Chernobyl accident.

The two controversial nuclear reactors which are being proposed as replacements for the Chernobyl power plant in Ukraine have passed the European Bank for Reconstruction and Development's initial review. The EBRD appear to be showing disregard for its own policies, given that past studies have shown the project for the Khelnitsky 2 and Rovno 4 reactors not to be economically viable. The EBRD is expected to fund US\$175 million out of the total cost of US\$1,600 million. An international public consultation exercise will now take place over the coming four months. For further information contact Antony Froggatt on tel/fax: UK (0)171 923 0412.

Increased levels of caesium-137 were monitored in Spain, France, Switzerland and Italy recently prompting fears of an accident at a nuclear site. However it was revealed that the radioactivity came from the Acerinox steel plant in southern Spain where radioactive material appears to have been put into the plant's furnaces. In Switzerland levels of caesium-137 were monitored at over 1,000 times normal levels for two days.

The transport of nuclear fuel has been banned in Germany until a solution can be found to prevent high levels of radioactivity from contaminating the external surfaces of transportation flasks and railway wagons. A German Ministry confirmed that levels of radioactivity 3,000 times greater than accepted levels had been found in the wagons.

The American National Institute of Health (NIH) has concluded that electricity pylons and power lines do pose a cancer risk (Independent 26/6/98). After considering evidence from around the world, the 28-member expert panel announced that they believe electric fields around power lines should be considered possible human carcinogens. It is believed that the decision will be important for the 23,000 people in the UK who live within 50 metres of a pylon. Sweden already has a policy of avoiding building homes near to pylons.

UK energy reviewed

The Government has announced its draft proposals stemming from the review of energy sources from power generation. Central to these proposals is a policy for restricting consents given to gas-fired power stations. This is a double-edged sword for the environment. Fewer gas-fired power plants inevitably means that coal-fired plants will continue to operate and in the present economic climate this will lead to more open-cast developments, particularly in Scotland. However, the proposals put forward suggest that combined heat and power projects, which have a high efficiency, are likely to be given consent.

Further proposals to reform electricity trading arrangements may be able to bring down the price of electricity, however, it is believed that this would still have been possible without restricting consents on new gas-fired plants. Indeed distortions in the electricity market in Scotland are mainly caused by the must-take contracts under which the utilities are required to purchase electricity from Scotland's nuclear plants. It has been estimated that in the early 1990s this added over £100 per annum to the cost of an average Scottish family's electricity bill. The present-day figure would still make the 10% reductions which the Government says it is looking for from its present review pale into insignificance.

The proposals also suggest that "major coal-fired generators should be encouraged to have at least one FGD [flue gas desulphurisation]-equipped plant". However, the Scottish Office have confirmed that this is mainly aimed at England and Wales and the same degree of encouragement will not be being made to generators in Scotland. Consultation on the proposals is open until 20th July (send inputs to Rupert Steele, DTI, 1 Victoria Street, London SW1H 0ET).

- A consultation paper on 'Economic instruments and the business use of energy' has been released by a Task Force which is to report to the Chancellor in early November. Responses are requested by the end of July on how market instruments can deliver CO₂ reductions assuming that revenues will be recycled to business.

- Energy Action Scotland and Transco have launched their 1998 Scottish EnergySavers Award. Local initiatives which have helped lower-income households to save energy, money and cut carbon dioxide emissions in Scotland over the last year are encouraged to enter. For further information contact Allana Parker on: 0141 226 3064.

UK Government Bill status

(see SEB115 for a brief description of the Bills)

The **Energy Efficiency Bill** has its reporting stage and third reading on 3rd July, after having been blocked at a previous attempt.

Following discussion of the **Energy Efficiency (Information) Bill** in the House of Lords the Government has given an undertaking to amend the building regulation within nine months to require prospective occupiers to be advised about the SAP rating of a dwelling.

The **Energy Conservation (Housing) Bill** has passed through the reporting stage and is due to receive its third reading in the House on 3rd July.

The **Warm Homes and Energy Conservation (Fifteen Year Programme) Bill** has been through the Committee stage, but is not expected to become law this session.

Early Day Motions

EDM 677 on nuclear waste in consumer goods presently has 39 signatories (status as of 25th June 1998). A petition by the Low-level Radiation Campaign (see enclosed leaflet) has so far raised over 35,000 signatures (the petition is still running and more signatures are still being called for). The nuclear industry are using the relative lack of concern being expressed by the public to their decommissioning activities as being a message of support for disposing material into the environment.

Scottish Public Inquiries

Status unchanged since last update (see Safe Energy Bulletin 115, April '98).

Up & coming events

- 18th-19th July 1998: 13th Low-level Radiation and Health Conference, University of Greenwich (contact Rebecca Harrison on: 0181 314 5347).
- 20th-24th July 1998: OSPAR Ministerial Conference on Marine Pollution in the N.E. Atlantic, Portugal.
- 19th-22nd August 1998: Renewable Energy Trade Fair, Stroud (contact Jo Badham on: 01453 752277).
- 2nd-4th September 1998: British Wind Energy Association Annual Conference, Cardiff University (tel: 0171 402 7102).
- 2nd-13th November 1998: Climate Change Convention COP4 meeting, Buenos Aires.
- 31st December 1998: Sewage sludge dumping at sea must end.
- 25th-17th May 1999: World Sustainable Energy Trade Fair, Sustain 99, Amsterdam (tel: 0181 289 8989 email: sustain@emml.co.uk).



"Looking for a career at the top?"

Dounreay are looking for an electrical engineer. An advert for the post, which appeared just days after the backup power supply for the Fuel Cycle Area failed to start up, after the main circuit had been cut through by a contractor digging a trench on the site, states that: "The Engineering Group, who support the Fuel Cycle Area Plants on the Dounreay site, has an immediate requirement for a graduate with a minimum 2(1) Honours degree in Electrical/Electronic Engineering." The advert adds that: "Knowledge of regulations pertaining to safety management will be an advantage". The prospect of Dounreay employing a graduate engineer, who possibly may even know something about safety, will be reassuring news to us all. Better late than never eh! Applicants should contact the Personnel Department at Dounreay on: 01847 802425.



Homer to Dounreay's rescue?

Recent articles in the national newspapers and on local radio about Homer Simpson promoting Dounreay's Open Day were meant as a bit of a joke. However, the UKAEA appear to have taken the matter very seriously and the Managing Director of Moray Firth Radio has been pressured into making an apology. Obviously it hit a raw nerve. Questions arise over whether the Dounreay authorities are able to differentiate between a joke and reality. Worryingly, it appears not.



Retirement reveals "stark realities"

On his retirement in March this year, Dr. Sam Harbison, the HM Chief Inspector at the Nuclear Installations, noted that things in the nuclear industry have changed dramatically since his early days: "There was enthusiasm everywhere and the industry was making ever-more ambitious plans for expansion. And then along came the Three Mile Island accident in 1979. What an impact that had on the confidence of the industry and on our appreciation, as regulators, of the stark reality behind the clever risk calculations that we banded about every day!" Hopefully the new Chief Inspector, Laurence Williams, who has two teenage children, will be less cavalier in banding about today's clever risk calculations.



Back to school Scottish Hydro

In a speech to an EU conference on energy and the environment in Glasgow in June the Scottish Hydro

Director James Martin stated his company's view that gas-fired power stations with an efficiency of more than 40% are considered to be "high efficiency" plants. Now I don't know about you, but when LBR was at school 70% and above would have been considered to be a 'high' mark, and as we all know combined heat and power plants have this level of efficiency. However, 40% would have been considered to be a 'very poor' achievement, in fact almost a failure. Perhaps Scottish Hydro's Directors need to go back to school to resit some exams.



UKAEA's pioneering approaches

The advert for an electrical engineering post at Dounreay comments that: "... UKAEA is again leading the world by pioneering new approaches to managing nuclear liabilities". Perhaps it is referring to the type of pioneering methods revealed in a new report on the contents of the site's waste shaft by Mr. McWhirter, an engineer working for WS Atkins, the private contractor which operates much of the Dounreay plant. One of the bizarre approaches developed at Dounreay includes the use of a harness to suspend 'gunmen' 10 metres above the site's waste shaft, to enable them to sink waste bags floating on the surface by shooting holes in them, whilst lessening the radiation exposure which workers would otherwise receive if they were to lean into the shaft to use the .22 rifles. This type of pioneering device would be of interest to anyone thinking of developing a daring theme park ride perhaps, which could well be the fate for the Dounreay site when decommissioning is complete - in a century or so.



BA taking nuclear material on scheduled flights

A cargo of 280kgs of low-enriched uranium fuel from Dounreay was flown to Canada in June on board a British Airways 747 scheduled passenger flight to Montreal. The material was kept just 12 inches from other packages in the aircraft's cargo hold. So next time you travel with BA, as well as the usual question "Smoking or non-smoking madam?", you may be asked, "And your luggage madam, irradiating or non-irradiating?"

Rabbits by Wilf Plum



"You didn't ask gov!"

It appears that we've been asking the wrong questions of the nuclear industry. Nobody, it appears, asked whether low enriched uranium was arriving from Georgia as well as HEU, and so, as nobody asked, there was no reason to tell anyone. Not even the Ministers. So perhaps we should be asking questions such as "Does the Government have a scooby about what is going on at Dounreay?", "Was anthrax sent over to Scotland in the shipment?", "What else haven't we been told over the last few decades?" - LBR would like to hear from readers with any other fundamental questions which we should be asking.



Scottish Homes

Waiting for a bus in the rain, LBR spotted a man with a very large umbrella. On it were the words "Scottish Homes". With its level of insulation and energy efficiency similar to that of most Scottish homes, no doubt this cheap, easy to erect style of home will be a big improvement for many people living in Scotland.

LBR wants to meet you all!

It was 21 years ago that the first SCRAM Energy Bulletin was published (August/September 1977). To mark the event and to enable editors and subscribers, both past and present, to get together, LBR would like to invite you all to Edinburgh on Saturday 5th September (two days after the Edinburgh Festival Fireworks). We'll be meeting at the FoE Scotland offices in the afternoon for all those people interested in seeing the remains of the SCRAM archive and then we'll be going on to the Ceilidh House (next to the Tron on the High Street) at 6.30pm before going on for a nibble. Please contact LBR if you'd like to come along.



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